

IN THE CLAIMS:

Claim 1. (Original) A jet drive for an amphibious vehicle comprising:
a fluid inlet;
a fluid outlet;
a conduit extending from the fluid inlet to the fluid outlet and defining a fluid flow path therebetween; and
a rotatable impeller housed within the conduit between the fluid inlet and fluid outlet, wherein[:] the ratio of thrust to intake length of the jet drive is at least 18,000 Newtons per metre.

Claim 2. (Original) A jet drive as claimed in claim 1 wherein the ratio of the thrust to the overall length of the jet drive is at least 8000 Newtons per metre.

Claim 3. (Currently Amended) A jet drive as claimed in claim 1 ~~or claim 2~~ wherein the ratio of the overall length of the jet drive to the intake length is between 2.01 and 2.11.

Claim 4. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the ratio of the jet overall length to the engine power is less than 7 millimetres per kilowatt.

Claim 5. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the ratio of the thrust to the impeller diameter is at least 25,000 Newtons per metre.

Claim 6. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the ratio of the jet nozzle diameter to the engine power is at least 1.3 millimetres per kilowatt.

Claim 7. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the ratio of the jet nozzle diameter to the impeller diameter is at least 0.6.

Claim 8. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the ratio of the jet nozzle diameter to the overall length of the jet drive is at least 0.21.

Claim 9. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the ratio of fluid inlet area to fluid outlet area is in the range of 2.5 to 3.5.

Claim 10. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the ratio of fluid inlet area to fluid outlet area is in the range of 2.6 to 3.2.

Claim 11. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the ratio of fluid inlet area to fluid outlet area is substantially 3.03.

Claim 12. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the fluid inlet area is in the range of 0.20m^2 to 0.400m^2 and the fluid outlet area is in the range of 0.010m^2 to 0.150m^2 .

Claim 13. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the fluid inlet area is in the range of 0.040m^2 to 0.150m^2 and the fluid outlet area is in the range of 0.020m^2 to 0.060m^2 .

Claim 14. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the fluid inlet area is substantially 0.081m^2 , and the fluid outlet area is substantially 0.027m^2 .

Claim 15. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the rate of fluid flow through the jet drive is in the range of $0\text{m}^3\text{s}^{-1}$ to $1.5\text{m}^3\text{s}^{-1}$.

Claim 16. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 wherein the rate of fluid flow through the jet drive varies

from substantially $0.2\text{m}^3\text{s}^{-1}$ when the impeller is driven at 600 rpm to substantially $1.1\text{m}^3\text{s}^{-1}$ when the impeller is driven at 3000 rpm.

Claim 17. (Currently Amended) A jet drive as claimed in ~~any one of the preceding claims~~ claim 1 comprising a stator housed within the conduit between the impeller and the fluid outlet.

Claim 18. (Currently Amended) A jet drive as claimed in claim ~~18~~ 17 wherein the stator has an inlet diameter in the range of 0.11m to 0.66m.

Claim 19. (Currently Amended) A jet drive as claimed in claim 18 ~~or 19~~ wherein the stator has an inlet diameter in the range of 0.25m to 0.35m.

Claim 20. (Currently Amended) A jet drive as claimed in ~~any one of claims 17 to 19~~ claim 17 wherein the stator has an inlet diameter of substantially 0.305m.

Claim 21. (Currently Amended) An amphibious vehicle comprising a jet drive as claimed in ~~any of the preceding claims~~ claim 1 wherein the ratio of thrust to engine power is at least 0.05 Newtons per Watt.

Claim 22. (Currently Amended) An amphibious vehicle comprising a jet drive as claimed in ~~any one of claims 1 to 20 or an amphibious vehicle as claimed in claim 21~~ claim 1 wherein the jet drive generates a peak bollard pull of at least 7kN from an engine peak power of less than 135kW, within a jet overall length of less than 860mm.

Claim 23. (Original) An amphibious vehicle as claimed in claim 22 wherein the peak bollard pull is at least 7.7kN.

Claim 24. (Currently Amended) An amphibious vehicle comprising a jet drive as claimed in ~~any one of claims 1 to 20 or an amphibious vehicle as claimed in any one of claims 21 to 23~~ claim 1 wherein the impeller can be driven in an opposite direction to that required for forward motion of the vehicle to effect a braking or a reversing function.

Claim 25. (Currently Amended) An amphibious vehicle comprising a jet drive as claimed in ~~any one of claims 1 to 20 or an amphibious vehicle as claimed in any one of claims 21 to 24~~ claim 1 further comprising a drive shaft linking a power take off of an engine to a jet input of the jet drive, wherein the drive shaft is skewed horizontally and/or vertically relative to the longitudinal axis of the vehicle.

Claim 26. (Original) An amphibious vehicle as claimed in claim 25 further comprising at least one universal joint affixed to the drive shaft.

Claim 27. (Currently Amended) An amphibious vehicle as claimed in claim 25 ~~or claim 26~~ further comprising at least one constant velocity joint affixed to the drive shaft.

Claim 28. (Currently Amended) An amphibious vehicle as claimed in ~~any one of claims 24 to 27 which is fully contained within the amphibious vehicle such that~~ claim 25 wherein no part of the jet drive extends out of the vehicle.

Claim 29. (Original) A jet drive for an amphibious vehicle comprising:
a fluid inlet;
a fluid outlet;
a conduit extending from the fluid inlet to the fluid outlet and defining a fluid flow path therebetween; and
a rotatable impeller housed within an impeller housing in the conduit between the fluid inlet and fluid outlet, wherein[:] the ratio of the axial length of the conduit to the mean internal diameter of the impeller housing is less than 4.0.

Claim 30. (Original) A jet drive as claimed in claim 29 wherein the ratio of the axial length of the conduit to the mean internal diameter of the impeller housing is less than 3.2.

Claim 31. (Currently Amended) A jet drive as claimed in claim 29 ~~or claim 30~~ wherein the ratio of the axial length of the conduit to the mean internal diameter of the impeller housing is substantially 2.9.

Claim 32. (Currently Amended) A jet drive as claimed in ~~any one of claims 29 to 31~~ claim 29 wherein the axial length of the conduit is in the range of 0.3m to 2.0m, and the mean internal diameter of the impeller housing is in the range 0.1m to 0.66m.

Claim 33. (Currently Amended) A jet drive as claimed in ~~any one of claims 29 to 32~~ claim 29 wherein the axial length of the conduit is in the range of 0.7m to 1.0m, and the mean internal diameter of the impeller housing is in the range 0.25m to 0.33m.

Claim 34. (Currently Amended) A jet drive as claimed in ~~any one of claims 29 to 33~~ claim 29 wherein the axial length of the conduit is substantially 0.85m, and the mean internal diameter of the impeller housing is substantially 0.295m.

Claim 35. (Canceled)

Claim 36. (Canceled)

Claim 37. (Canceled)

Claim 38. (Currently Amended) An amphibious vehicle incorporating the jet drive as claimed in ~~any one of claims 1 to 20 or claims 29 to 34~~ claim 1.

Claim 39. (Canceled)

Claim 40. (Canceled)

Claim 41. (Canceled)

Claim 42. (New) An amphibious vehicle incorporating the jet drive as claimed in claim 29.